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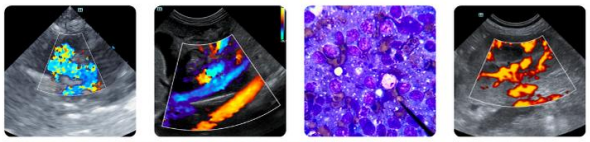


Clinical Sonography & Telecytology
Educational Teleconsultation Services™

SonoPath.com info@sonopath.com 1.800.838.4268

PATIENT
Trinity Mitchell

SPECIES
Canine

BREED
Labrador Retriever

SEX
Female Spayed

AGE
10.11 years

WEIGHT
62lbs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Katy Borzillo

HOSPITAL NAME
Elizabeth Animal Hospital

REFERRING VET
Dr. Anderson

INVOICE
46932

DATE
2/20/26

PRESENTING CLINICAL SIGNS

History: (1/2026): elevated BNP. Yesterday began an increased rate of breathing, difficulty breathing, very low energy level, and no interest in food. Historically marginal thyroid levels
-Abnormal PE/Chem/CBC/UA Results: PE: HR: 160bpm and RR: 45bpm. Afebrile. Abdominal press at end expiration. Slightly harsh lung sounds. Labs: Urinalysis February 11th, persistent proteinuria, specific gravity 1.05, quiet sediment Full panel on January 21st: pro BNP 2267 picomoles per liter, normal CBC, chemistry, blood parasite screen, and fecal screen. BP: 177.5mmHg

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Globoid cardiomegaly. No obvious evidence of CHF.

ELECTROCARDIOGRAPHIC FINDINGS *Note: Single lead ECGs are evaluated as a rhythm strip. Morphology/MEA cannot be definitively commented on.

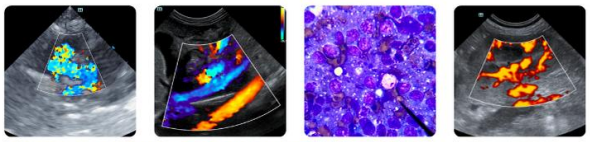
A single lead ECG is available; 25mm/s, 10mm/mV. The average heart rate is 136bpm. The rhythm is sinus in origin, with a p for every QRS complex and vice versa. The P and QRS morphologies are positive. No ectopic beats, pauses or other dysrhythmias observed.
ECG diagnosis: Normal sinus rhythm.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Moderate left ventricular dilation (LVIDdN: 1.95 LVIDsN: 1.51) with moderate to severely depressed myocardial function. Moderate left atrial enlargement. The mitral valve appears mildly thickened, with no obvious prolapse into the left atrial lumen. No mitral regurgitation. The tricuspid valve appears normal in form and function. Mild RA and RV dilation. Mild tricuspid regurgitation. The aortic valve is normal in morphology and mobility. No subvalvular ridge present; normal LVOT velocity. No aortic insufficiency. Normal pulmonic valve with no pulmonic insufficiency seen. Scant pericardial effusion. No pleural effusion noted. No obvious cardiac tumors.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	**MR VMAX** (m/s)	**TR VMAX** (m/s)	**LA/AO** (Boon method)	**LA/AO** (Heart Base; Swe)	**FS** (%)	**EF** (%)	**EPSS** (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	NM	NM	1.7	17	30	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT**	**LA** 2D short axis Base view (cm)	**LVIDd** Avg; 2D and m-mode short axis (cm)	**LVIDs** Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	1.6	0.9	28.1	3.8	5.2	4.3
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS **Note: All measurements based upon multi-modal images and methods. An average value is reported.*				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)



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Adapted from June Boon, Veterinary Echocardiography, 1998 Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435 Hansson et al, Vet Rad and Ultrasound 2002 Bonagura et al. Echocardiography: principles of interpretation, Vet	30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
	35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
	40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
	50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Unfortunately, this patient has changes consistent with dilated cardiomyopathy phenotype (DCM). There is a decline in systolic function, with moderate LA/LV dilation indicating there may be risk for complication in the future. The finding of scant pericardial effusion (PCE) is of course concerning; however, with moderate LA dilation CHF is unlikely. No obvious intra or extra-cardiac masses are observed; however, it must be mentioned that these are easily missed in large dogs. Advanced imaging such as with a Cardiologist and/or a thoracic CT scan should be considered. The ECG is normal with a normal sinus rhythm.

Event with changes seen here, it is unclear how these relate to the current clinical malaise not to mention the finding of PCE. Pericardial effusion to this degree should not be causing acute clinical signs and CHF is unlikely to be the cause. That being said, this is not entirely ruled out. Full systemic screening is recommended, including an abdominal ultrasound to assess for additional abnormalities. If no alternative cause for effusion is identified, a Lasix trial could be attempted. Referral should be considered in this complicated case.

Systolic dysfunction can be primary in nature (DCM) or secondary to taurine deficiency, myocarditis, hypothyroidism, tachycardia-induced cardiomyopathy, or infiltrative disease such as lymphoma. While primary disease is certainly possible in this breed, consider testing for primary causes that may be treatable such as a thorough diet history given the recent correlation with grain free/boutique brand/exotic ingredient diets, thyroid panel, etc.

This patient may be at risk for congestive heart failure, malignant arrhythmias (AF, VT), collapse and/or sudden death in the future. Based upon the Protect study, Pimobendan is recommended going forward.

Monitor for development of a progressive cough, labored breathing, exercise intolerance or collapse episodes in the future. Monitoring of sleeping breathing rates at home is recommended to screen for progression in the future. Mild activity restriction is advised. Omega fatty acid supplementation and mild salt restriction may be of some long-term benefit.

PLAN

Institute Pimobendan 0.3mg/kg PO q12h. Full systemic screening in search of alternative explanations for pericardial effusion and malaise. If none are identified, a Lasix trial is recommended, give 2mg/kg PO q12h and assess for clinical response in 3-5 days. A diet history and thyroid status are recommended. Consider advanced imaging, referral in this complicated case.

A recheck echocardiogram is recommended in 6 months to assess for progression, sooner if clinical signs arise.

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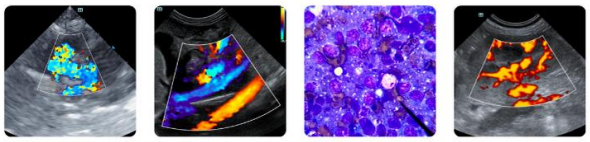

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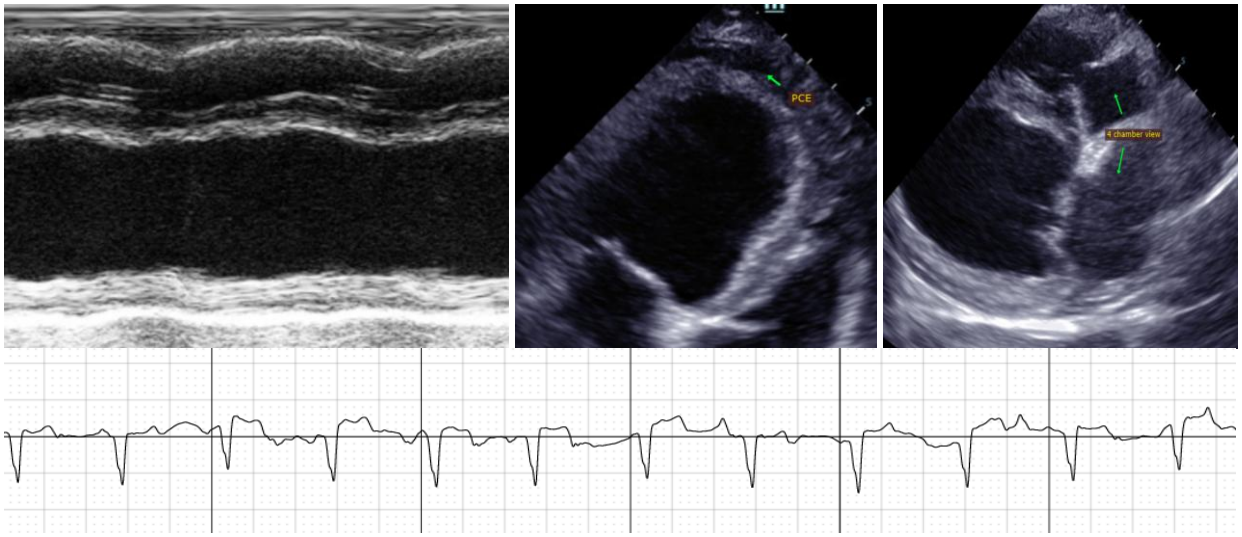
IMAGES



The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com